COMMBAT

REQUIRES TWO COMPLETE COMPUTER SYSTEMS (SEE BACK)

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TOP SECRET
From: Cmdr, Squadron 6, Galactic Peace Force
To: Heads of Government, Warring Planets

Subj: SINGLE COMBAT

Encl: (1) Summary of Resources Capabilities
(2) Summary of Combat Console Commands
(3) Summary of Combat Console Messages

1. War has been declared between your respective planets over mining rights to the Uranium deposits found on the third planet of the star DENEB. In accordance with Galactic Law this issue shall be settled by SINGLE COMBAT to the DEATH between the supreme champions of the two governments in dispute. The survivor's government will hold title to the disputed territory as guaranteed by Galactic Law and the combined might of the Galactic Peace Force.

2. You will be taken to a totally unfamiliar combat reservation and given exactly the same resources at the start. The trial begins as soon as each of you locates his base within the reservation and may only end with the death or resignation of one of the combatants.

3. The reservation is 4096 square kilometers, arranged in a 64km by 64km square. The reservation is surrounded by a barrier, impenetrable to any weapons in your possision and lethal to any of your combat vehicles. The combat console will display one eighth of the reservation at any time (one sector), however, this display is not necessarily up-to-date as it represents only the computer memory of the items seen in this sector the last time a vehicle's sensors passed through the area. This sector MAP display is located to the left side of your console, formatted as 32km wide by 16km high. The sectors are numbered within the reservation as follows:

1	2
3	4
5	6
7	8

With sector 1 adjacent to sector 2 and 3 etc.

The command HELP will display a summary of all command information in the sector display, replacing the current MAP. The right side of your display will present the current status of selected resources.

4. You will be asked to establish communications with your enemy and both will be asked to locate their respective bases before the combat can begin. The base locations are specified by **Sector, X-coord, Y-coord.** Location 1,1,1 is in the upper left corner of the reservation and 8,32,16 is in the lower right corner of the reservation. As an alternative, you and your opponent may load and resume a previously unfinished session.

5. Each base is equipped with the following resources:
   A. One nuclear tipped ballistic missle (ICBM).
   B. Eight remote controlled tanks.
   C. Three Decoy bases.
   D. Four one way Drone reconassaince aircraft.
   E. 200 Mines.
   F. 200 Anti-tank Rockets.
   G. 250 Artillery Shells.
   H. 255 Charged Laser batteries.
   I. 100 Units of shielding power.
   J. Repair facilities for combat damaged tanks.
   K. Combat Command Console.

The capabilities of the above resources are fully explained in Enclosures (1), (2) and (3).

6. The object of this trial is to locate and destroy your enemy and his base, utilizing all of the resources allocated to you, before he can do the same to you. There are no rules other than the limitations imposed by your equipment and any treaties struck with your ememy that you feel morally bound to honor.

Command and Display Summary

The left side of the combat console (see separate COMBAT console card) will display any one of the eight sectors within the reservation selected by the use of the MAP command, or it will display a summary of the commands available and weapons firing and aiming information with the execution of the HELP command.

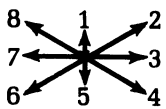
The right side of the Combat Console will display immediate status of the current active selected Base, Decoy and Tank as well as a 5X5 window display of close-in threats around them regardless of which sector is currently in the MAP display.

The MAP display is a representation of the best information the Combat Computer has about the sector in the display, and as such only reflects the items seen by your various sensors the last time they passed through the area. ie: an enemy tank seen at a particular location may have long since moved.

Fire Control:

All directed weapons (Shell, ICBM, Drone) are fired at a particular square denoted by **Sector, X-coord, Y-coord.**

All straight line weapons (Laser, Rocket) are fired in a particular direction according to the following:



Combat Console Command Summary

SELECT TANK n - Select tank # n for video display update and command / fire control active unit.
SELECT DECOY n - Select decoy n for video display update.
SELECT BASE n - Select base as active fire control unit, active tank is dropped as fire control unit and must be reselected before it may again fire weapons. Base always updates video display.

DROP (MINE, DECOY, ROCKET, SHELL, LASER) n - Drop quantity n of the designated item at the present location of the current active fire control unit. This command is only valid for tanks. WARNING - offensive weapons may be dropped at any location within the reservation, but they may only be loaded at your own base, decoy or a dead tank.

LOAD (MINE, DECOY, ROCKET, SHELL, LASER) n - Load quantity of the designated item onto the current active tank from its present location. Offensive weapons may only be loaded at a base, decoy or dead tank. If a decoy containing a store of weapons is loaded back onto a tank, the weapons store is lost to you.

FIRE (ROCKET, LASER) n - Fire the designated weapon in the direction n from the current active fire control unit, if it is onboard. If the active fire control unit is a tank with others linked to it, all linked tanks with the particular weapon on board will also fire that weapon. Be especially carefull with linked tanks in close proximity, they can shoot each other.

FIRE (SHELL, ICBM, AIR RC DRONE) s,x,y - Fire the selected weapon from the current active fire control unit at the square identified by the coordinates s,x,y. The base must be selected as fire control active in order to fire an ICBM or a Drone. If the active fire control unit is a tank with other tanks linked to it, all linked units having the weapon aboard will fire at the same square.

PATCH a,b,c..etc. - Set a patch link the tanks numbered a,b,c..etc to the current active tank for all Move commands and Fire commands. Note a dead tank linked to an active tank will not obey or fire commands. Patch 0 breaks all active links.

MAP n - Display the current map of sector n on the left side of the Combat Console. An invalid n will cause the HELP display to be displayed. The MAP command also updates the status of your own mines within the requested sector.

HELP - Display a summary of all commands and firing information on the left side of the Combat Console, replacing the current Map.

(:)....etc. - Send the contents of your command line to your enemy's Battle message display. This is very handy for proposing treaties, sending snide messages and other useless distracting information to your enemy.

QUIT - This command allows you to resign from a hopeless situation. It also immediately destroys you - this IS a battle to the death.

Move commands - The following four keys control tank motion: , , less than (<), greater than (>). The current active tank, and all tanks Patched to it, will move one square in the appropriate direction for each keypress. Dead tanks will of course not respond to move commands. Move commands are executed immediately and do not disrupt or modify a partially typed command line. Left arrow functions as a backspace for command line typing.

All commands may be abbreviated to their respective first letter, and will be understood by the Combat Console.

Resource Capabilities, Summary

BASE - Quantity one. Initially placed within the reservation by each combatant (**Sector, X-coord, Y-coord**), all other resources are contained within the base at the start.

Video characteristics - Own base displays as the character "B" on own display. Enemy base displays as a 3X3 area filled with the character "B", the outer eight are actually decoys and harmless. This symbol masks all other items located within the same square.

Your base continuously updates a 7X7 square area centered about it's location on the map of the sector in which it is located, in addition, it continuously updates a 5X5 window display on the status side of your combat console regardless of which sector is currently being displayed.

The base can be selected as Fire Control Active and fire weapons from it's inventory. Only the base can fire ICBM's and Drones. Contact with your base is instantly lethal to enemy tanks.

The base has an initial shield value of 100 units. It can be destroyed by a direct hit from an ICBM, or by 100 units of cumulative weapons fire after it's stock of mines is depleted.

The base will automatically repair any damaged tank that returns to it.

TANK - Quantity eight. Located at the base initially.

Video characteristics - Own tank displays it's identity number to the map of the sector in which it is located. Enemy tank when sighted by a sensor is displayed as the character "*". A disabled tank, own or enemy, displays the character "X". Own tank symbol is masked by the following symbols: Base, Decoy, and a lower numbered tank.

The current selected active tank will continuously update a 5X5 square area on the map of the sector in which it is located centered about it's location, in addition, the current active tank continuously updates a 5X5 window display on the status side of the combat console regardless of which sector is displayed. Any tanks linked to the current active tank also update a 5X5 area of the sector's map in which they are located. Any tank not selected or linked has no communications with the combat console, with the one exception that damage sustained from enemy fire will immediately cause it to flash an identifying message 'ATTACK REPORTED - UNIT # N' on the combat console.

Destroyed tanks will answer only the command to drop any mines on board and update the visual display if selected as Fire Control Active. In addition, your own dead tanks' weapon supply can be salvaged

by your active unit and your own dead unit will shield the active unit from inbound weapons fire. This is a mixed blessing as it also prevents the active unit from firing back.

All tanks have an initial shield value of eight units. This value is decreased by each weapon hit in the same amount as the weapon's power. As long as the shield value remains higher than 4 your own mines are harmless to it. If the shield falls to 4 or less, your own mines are also lethal. The shield is automatically restored to full value whenever the tank returns to it's base. If the shield falls to zero the tank is dead and nothing can be done to restore it to active service. Opposing tanks cannot occupy the same square, contact is instantly fatal to both regardless of the relative shield strengths. Dead tanks are harmless to both sides.

Tank motion is controlled by the keys: ↑, ↓, <, >, on the combat console. The tank will move one square for each key press and any linked tanks will move with it in the same direction. The movement keys have immediate priority and will not disrupt any command line that is partially typed. Any tank that attempts to leave the reservation will be immediately destroyed.

Active tanks can load, drop and fire any objects within the base, except ICBM's and Drones, within their load carrying capacity of 8,000 kilos. Mines and Decoys can be retrived from any location within the reservation. Other weapons may be dropped at any location, however they may be retrived only from a depot (Base or Decoy) or a dead tank.

The PATCH command will 'link' any or all of the remaining tanks to the current active tank so that all move or fire commands will be performed in unison provided the patched tanks have the called for weapons on board and are not dead. The PATCH 0 command breaks all active links at once.

DECOY - Quantity three, located at the base initially.

Weigh 3000 kilos, shield strength 0, decoys are immune to any weapons fire and harmless to own or enemy forces.

Video characteristics - Displays the character "D" to own battle display and a 3X3 area of the character "B" to the enemy (the same as your base). This symbol masks all other items located on the same square except a base.

The current selected active decoy will continuously update a 5X5 square area on the map of the sector in which it is located. It will also update a 5X5 window display on the status side of the combat console regardless of which sector is currently being displayed.

Decoys may be carried and dropped by tanks at any location within the reservation and may be relocated at any time by any friendly tank with sufficient excess load carrying capability.

Decoys are not inherently dangerous to enemy forces, however they may be protected from enemy infiltration by laying mines around or within them. They may also be utilized as forward ammunition dumps and will hold any number of weapons dropped by friendly tanks. In this application it would be prudent to protect them with a few mines, since a few enemy mines would prevent access to your own weapons supply. WARNING - If a decoy containing weapons is loaded onto a tank, the weapons are left behind and, except for any mines, are lost.

ROCKET - Quantity 200, located initially at the base. Weight 600 kilos, range 3 km, strength 4.

Rockets are straight line weapons, fired in any of the eight cardinal directions, that continue to the limit of their range or until they hit a target. They are dangerous to any mine, tank or your enemy's base. They may be loaded, dropped or fired by your tanks. Your base, when selected as fire control active, may also fire rockets from its remaining supply. They may also be stockpiled in your decoy as a forward ammo dump.

LASER - Quantity 255, located initially at the base. Weight 100 kilos, range 4 km, strength 1.

Lasers are straight line weapons similar to rockets.

SHELL - Quantity 250, located initially at the base. Weight 200 kilos, range 5 km, strength 2.

Shells are directed weapons, controlled by providing target coordinates (**Sector, X-coord, Y-coord**). Their range includes any square within an 11km by 11km block centered about the firing vehicle. Shells fired at targets beyond their range are simply lost. Their main advantage over straight line weapons is that they may be fired at targets hiding behind mine fields or other obstacles.

DRONE - Quantity 4, located at base. Drones are directed weapons that can only be fired by the base, and cannot be carried by tanks. They will when fired go to the designated square within the reservation (**Sector, X-coord, Y-coord**), and update the appropriate sector map in an 7 km by 7 km square centered about the target coordinates. Drones are one trip, expandible weapons used to verify enemy force disposition in remote sectors.

ICBM - Quantity one located at and fired by the base.

ICBMs are directed weapons that may be fired at any square within the reservation (**Sector, X-coord, Y-coord**). They hit the central target coordinate with 112 units, the next ring outward (8 squares) with 48 units and the outermost ring (16 squares) with 16 units or force. ICBMs are weapons of mass destruction and as such their force cannot be shielded, they hit all items within a particular square with the same force, destroying all that cannot withstand that force. Only a direct hit will kill a base outright, however a near miss will strip it of all mines and any tanks hidden within.

MINES - Quantity 200, located initially at the base. Weight 400 kilos, range zero, strength 4.

Own mines show as the character " + " on own combat console displays, enemy mines cannot be seen. This symbol is masked by any other item located on the same square.

Mines may be loaded onto and dropped from any tank having sufficient excess load carrying capability at any square within the reservation. Multiple mines may be dropped at any location. Your own mines are harmless to your own tanks unless their shield is below 5 units, in which case the mines are lethal. Mines may be dropped by a damaged tank with safety and the tank may leave the mined location, but it may not safely return until its shield is repaired by a visit to its base.

Mines absorb inbound weapons fire on a one for one basis, and will therefore shield a tank sitting on a pile from damage until they are depleted.

Battle Message Summary

The following is a summary of the battle messages which you will see during the course of the combat, as well as the circumstances that cause them to occur. All messages will remain on the display until the next character is typed into the command line.

COMMAND ERROR - CANNOT COMPLY

Indicates thal an illegal or mistyped command has been entered. No action will be taken.

ATTACK REPORTED - UNIT # n

Tank number n is under enemy attach and has sustained some damage. No report will be made in the event an enemy mine is struck.

EXPLOSION REPORTED BY F/C UNIT

Unit firing weapons has obtained a hit on a target. This messages will be displayed in the event that you hit your own forces.

ACTIVE F/C UNIT CANNOT DO THAT

Displayed in the event that a command is issued that is legal but cannot be executed by the current active fire control unit. ie. FIRE AIR RC DRONE with a tank as F/C unit.

CANNOT COMPLY - UNIT DISABLED

Results when a move command is issued to a disabled tank. If a dead tank is patched to one or more live tanks this message will be displayed although the live tanks will respond to the move command.

CANNOT COMPLY - MAX LOAD REACHED

Resuls from attempting to load additional items onto a tank in excess of its load carrying capability. No action taken.

CANNOT COMPLY - NONE HERE

Results from attempting to load items onto a tank which are not at its present location.

CANNOT COMPLY - SUPPLY EXPANDED

Results from attempting to drop items off of a tank that does not have them on board. Attempting to fire weapons that are not available does not result in a warning message.

YOU ARE DESTROYED - TRY AGAIN
ENEMY DESTROYED - TRY AGAIN

Results from the victory or resignation of one of the two combatants. If answered by a 'N' the program reboots the operating system. If answered 'Y' the program reinitializes for another game.

GAME OR PRACTICE SESSION (G/P)
INPUT BAUD RATE 110 - 9600
INPUT PASSWORD - HIT (ENTER)
HIT ENTER TO CHECK COMMLINK
WANT TO LOAD SAVED GAME? (Y/N)
INPUT BASE COORDS S X Y(ENTER)

Used to start the game, setup the communications link and locate the combatants bases prior to combat.

PSWD ERR - RETRY - HIT ENTER
CKSM ERR - RETRY - HIT ENTER
ANOTHER COPY? (Y/N)
READY CASSETTE - HIT (ENTER)

Used when saving and loading games in progress to or from the cassette recorder. Games saved with a particular password may only be reloaded if both parties use the same passwords EXACTLY.

What's A Modem Eliminator Cable?

If you and your opponent will be playing in the same room (anywhere within 10 feet or so of each other) you may wish to connect your computers directly, saving the expense of buying a pair of modems and freeing up the phone lines. All that's needed is a "Modem Eliminator Cable."

The following is a description of how to make one. It is quite simple, but if you aren't on good terms with a soldering iron, get somebody who is to help you. A Radio Amateur (ham) is a likely candidate. It may be encouraging to know that the RS-232 interface port on most computers is designed to withstand a great deal of abuse, so you needn't worry about hurting anything unless you are outrageously clumsy!

There are two ways to make these cables. The basic method requires three or four conductors in the cable connecting the two computers, and the elegant approach requires seven or eight. The basic cable is easiest to make, and will run with virtually any RS232 software available (including Commbat). The four conductors carry protective ground, signal ground, transmit data, and receive data. If you wish, the protective ground may be eliminated.

The elegant cable takes only a few extra minutes to make, but gives more refined operation with certain programs. The extra conductors are used to make sure the other computer is ready to receive data before any is sent. This type of operation is often called "handshaking." Not all systems support handshaking, but if yours will, it is worthwhile to wire your Modem Eliminator Cable to include it. Note, however, that the basic cable is all that is needed to run COMMBAT.

Making the Eliminator Cable

Obtain two connectors and an appropriate length of wire. DB-25 plugs used with TRS-80 and Apple computers are available at Radio Shack as part number 276-1559 (male) and 276-1565 (female). See your Atari dealer for the correct plug for Atari computers. Look at your computer to determine whether you need male or female connectors.

There are many suitable types of wire available. If you use stranded rather than solid wire, the cable will last longer, but solid will work if it is all you can find. One possibility is Radio Shack's 278-372 four-conductor telephone wire. Use one length for basic operation, and two lengths for elegant. For a truly nifty cable, get a length of round eight-conductor antenna rotor cable (available from TV shops and Amateur Radio equipment dealers).

Modem Connection Instructions

To connect:
TRS-80 to TRS-80 (Models I, II, III and 16)
TRS-80 to Apple
Apple to Apple
(Atari users skip to next section.)

For basic operation connect:

DB25 Connector A pin #	to	DB25 Connector B pin #
2		3
3		2
1		1 (protective ground)
7		7 (signal ground)

*Inside each plug, connect pins 4 and 5 together.
Also connect pins 6, 8, and 20 together.

For elegant operation connect:

DB25 Connector A pin #	to	DB25 Connector B pin #
1		1
2		3
3		2
7		7
4		6
5, 8		20
6		4
20		5, 8

Atari to Atari

For basic operation connect:

Nine-Pin Plug A pin #	to	Nine-Pin Plug B pin #
3		4
4		3
5		5

*Inside each plug, connect pins 7 and 8 together.
Also connect pins 1, 2 and 6 together.

For elegant operation connect:

Nine-Pin Plug A pin #	to	Nine-Pin Plug B pin #
3		4
4		3

5	5
7	6
6	7
1	2, 8
2, 8	1

Atari to TRS-80 or Apple

For basic operation connect:

Nine-Pin Plug A pin #	to	DB-25 Connector B pin #
3		3
4		2
5		7

*Inside the nine-pin plug, connect pins 7 and 8 together. Also connect pins 1, 2 and 6 together.

*Inside the DB-25 plug, connect pins 4 and 5 together. Also connect pins 6, 8 and 20 together.

For elegant operation connect:

Nine-Pin Plug A pin #	to	DB-25 Connector B pin #
1		5, 8
3		3
4		2
5		7
6		4
7		6
2, 8		20

*May not be necessary with some programs including Commbat.

Construction Hints

Strip about 1/8" of insulation from the end of each wire. Tin each conductor with a small amount of solder so all the strands stay together. For best results use a soldering pencil with a small tip. Make sure that you use rosin core, electronic-type solder. Do not use acid core or paste!

Be careful that each wire touches only the proper pin, and that globs of solder do not short two pins. If a pin shorts to another pin by accident, the cable will not work properly. As you connect each wire, write down which color of wire goes to which pin. It'll make wiring the other plug a little easier. If your cable requires any jumpers inside the plug, use short pieces of insulated wire for this purpose.

When you are finished, go back and make sure that each wire is connected to the correct pin. If your cable doesn't work, and you've checked the wiring very carefully, try using the alternate wiring scheme. (If you wired your cable in the basic configuration, try the elegant one, and vice versa.) Enjoy!

TRS-80 Loading/Operating Instructions

USER'S NOTE: Once you've loaded the tape or disk version of COMMBAT for your specific system, refer to Steps 8 through 13 under TRS-80 MODEL 1 and 3 16K TAPE VERSION for guidelines regarding pre-play procedure and establishing modem communications.

TRS-80 COMMBAT Version 2.1 Enhancements

COMMBAT now includes a split screen "dumb" terminal routine that will let you use your computer as an interactive terminal to make establishing communications with your opponent easier. As an added bonus, this routine also lets you use your computer as an interactive terminal with most dial-up services. COMMBAT asks you for your choice during the startup procedure. When you and your opponent have agreed on the details, press SHIFT C to begin playing COMMBAT.

An additional prompt has been added to allow those users owning the MICROCONNECTION™ modem to automatically configure their I/O port. Answer Y to this prompt if you intend to use your MICRO-CONNECTION™ modem. Otherwise answer N and the I/O port will be configured for the TRS-80 ™ standard.

The other enhancement that has been added to this version causes the Combat Console Display to flicker whenever one of your tanks hits a mine that damages it.

IMPORTANT NOTE

If you are using the **new** LYNX modem (Auto answer/dial) on the TRS-80 Model III, you must enter the following statements FROM BASIC before you can load and run the game:

```
READY
  POKE 16912, PEEK(16912) OR 16
  OUT 236, INP(255) OR 16
```

These statements are necessary to set up the modem for use by the COMMBAT serial routines.

As an alternative method, you can execute the following assembly language program directly before loading the program, or append it to

the program (using LDOS's CMDFILE, RSM, or similar utility):

```
        ORG    7000H        ;REALLY DOESN'T MAKE ANY
                             DIFFERENCE, UNLESS YOU'RE
                             APPENDING TO PROGRAM
SETUP   PUSH   AF           ;SAVE AF JUST IN CASE
        LD     A,(16912)    ;GET VALUE
        OR     16           ;SET BIT 3
        LD     (16912),A    ;PUT IT BACK
        ;THE FOLLOWING IS NOT ALWAYS NECESSARY, BUT A
         GOOD IDEA TO EXECUTE ANYWAY JUST TO BE SURE
        IN     A,(255)      ;GET VALUE
        OR     16           ;SET BIT 3
        OUT    (236),A      ;SEND ALONG TO MODEM
        POP    AF           ;RETRIVE
        RET                 ;OR, JUMP TO START ADDRESS
        END
```

TRS-80 MODEL 1 and 3 16K TAPE VERSION

1. Turn on your TRS-80.

2. Put your copy of COMMBAT into the cassette player. Rewind the tape, if necessary. (MODEL 3 ONLY: Press **L** for low baud rate tape loading when requested.)

3. Set the volume control on the cassette player to 4 or 5.

4. Type: SYSTEM (Then press **ENTER**).

5. Type: **C** (Then press **ENTER**).

6. COMMBAT should now begin loading with a blinking "*" in the upper right corner of the video screen. If a "C" appears, or the "*" doesn't appear or doesn't flash, rewind the tape, and repeat steps 2 through 5. Usually adjusting the volume a little higher helps if the "*" doesn't appear, or a little lower if the "C" appears.

7. When the "*?" appears at the bottom of the screen in 3 or 4 minutes, press **/** and touch **ENTER**. The program will then begin.

8. The screen will now display the Combat Console including the HELP frame in the MAP section. The Battle Message Line will ask if this is a Practice session or a game situation. Answer the prompt by typing either **G** or **P**. Since the practice session merely allows the player to move his resources around and get the "feel" of the game, no opponent is required.

9. The computer will now ask you to select a baud rate for the modem communication. Both players must select the same baud rate. 300 baud is the most commonly used rate for telephone communications, but you

may select any rate from the following list: 110, 150, 600, 1200, 2400 or 9600. Type in the desired value then hit ENTER.

10. The Combat Console will then prompt you to enter a password of up to 8 characters maximum. CAUTION: To load a saved game or practice session, the passwords must be EXACTLY the same ones used previously. After the password has been entered, you will be prompted to touch ENTER to check the communications link.

11. Now, you will need to establish serial communications with your opponent. In using the modems, one must be set to "originate" and the other set to "answer"; both must be set for "full duplex" communications. IMPORTANT: Wait until both modems are on line before going on to the next step. NOTE TO RADIO SHACK MODEM 1 OWNERS: The Modem 1 is only a half duplex modem and will not work properly when used through the cassette port on the TRS-80 Model 1. It must be connected via an RS-232 port to function correctly.

12. Hit ENTER for the commlink check. You will then be asked if you wish to load a previously saved game. If yes, then press Y. You will then be prompted to ready the cassette to load the game. Once it has loaded, the game will begin at the point you saved it. If you wish to begin a new game, press N. You will then be asked to input the location on your base. As soon as both parties have placed their respective bases, the game will start automatically. Either opponent may issue commands at will.

13. Once a victory has taken place, the computer will ask if the players wish to play another game. Press N to return to the operating system, or Y to play another game. If the latter, return to Step 12 above.

TRS-80 MODEL 1 32K DISK VERSION

If you have a TRS-80 Model I with more than one drive, follow these instructions:

Before doing anything else, place a write-protect tab on the Adventure International diskette and make a backup copy. Insert the copy of the Adventure International diskette into Drive 1, and a copy of TRSDOS into Drive 0. Press the reset button found at the rear of the keyboard on the left-hand side. When the TRSDOS READY prompt appears on the video display, type A I C H A I N, press ENTER, and the program will start running.

If you have a TRS-80 Model I with a single drive, follow these instructions:

Make a copy of TRSDOS 2.3 and remove all visible files from the copy using the KILL command. Visible files are those which appear when you type DIR.

Place a write-protect tab on the Adventure International diskette and insert it in the disk drive. Boot the system by pressing the reset button found at the rear of the keyboard on the left-hand side. The program will ask you for a destination drive. Type **0** (zero) and press **ENTER**. The program will copy the Adventure International program onto your TRSDOS diskette. You will be asked to swap diskettes in and out of the drive as the files are copied. Follow the instructions on the video screen carefully.

After the transfer utility stops, remove the Adventure International diskette from the drive and replace it with the copy you have just made, which should now contain the COMMBAT programs and TRSDOS 2.3. Press the reset button, and when DOS READY appears on the video display, type **AUTO AICHAIN** and press **ENTER**. Press the reset button again and the program should begin running automatically.

If you have TRS-80 Model III:

The disk you have purchased is in Model I format. Use the Convert utility on TRSDOS to make a MODEL III compatible version. COMMBAT can be used on a single drive Model III system, but two drives are required to convert it from Model I format. If you only have one drive, you can use a friend's machine to convert the program, or you can simply back up Model III TRSDOS onto the Adventure International diskette and return it to us. We will put COMMBAT on the diskette, and return it to you. To run Convert:

Make a copy of Model III TRSDOS, and remove all the visible files using the KILL command. Visible files are those which appear when you type DIR. Then:

Insert a copy of Model III TRSDOS into Drive 0, and the Adventure International diskette into Drive 1. Press the reset button (the small orange square in the upper right-hand corner of the keyboard). When DOS READY appears on the video display, type **CONVERT** and press **ENTER**. Answer the "Source Drive?" question by typing **1** and pressing **ENTER**, and the "Destination Drive?" question by typing **0** (zero) and pressing **ENTER**.

The utility will then convert the programs from the Adventure International diskette for Model III operation, and copy them to your TRSDOS disk.

When the Convert program finishes and the DOS READY prompt appears, remove the Adventure International diskette and put it in a safe place. Then type **KILL AICHAIN/CMD** and press **ENTER**. When the DOS READY prompt appears again, type the following:

```
BUILD AICHAIN          (press ENTER)
BASIC                  (press ENTER)
1                      (press ENTER)
ENTER                  (press ENTER)
RUN "START"            (press ENTER)
BREAK
AUTODO AICHAIN         (press ENTER)
```

Press the reset button and the program will begin running.

ATARI Loading/Operating Instructions

USER'S NOTE: Once you've loaded the tape or disk version of COMMBAT for your specific system, refer to Steps 8 through 13 under TRS-80 MODEL 1 and 3 16K TAPE VERSION for guidelines regarding pre-play procedure and establishing modem communications.

ATARI DISK VERSION

A minimum of 24K is required for COMMBAT. To use this COMMBAT diskette, a copy of your DOS must be added to it. Since this program requires the use of ATARI's 850 Serial Interface, the DOS must be single density, and version 2.0 or higher. (This is explained by ATARI for all purchasers of the 850.) Also, if you have a MICROCONNECTION™ modem, your DOS must be 2.0 or higher. The DOS must first be modified as follows to protect the areas of memory required by COMMBAT.

1. Put the DOS 2 diskette into the drive. Make sure the BASIC cartridge is installed, and boot up your system.
2. When the "BASIC READY" prompt is displayed, type the following commands:

```
POKE 1801,2
POKE 1802,1
DOS
```

3. When the DOS Menu is displayed, insert your COMMBAT diskette into Drive 1, and select Option H, "Write DOS Files." This will write a one-drive, two-file DOS to your COMMBAT diskette. You must also create a MEM.SAV file on your COMMBAT diskette if one is not already present.
4. Insert the original DOS 2 diskette into Drive 1, and use Option O, "Duplicate File" to transfer a copy of the AUTORUN.SYS file from the DOS 2 diskette to your COMMBAT diskette. This file is required in order to automatically engage ATARI's RS-232 handler when the computer is turned on and a disk

drive is connected to the system. If you are using the MICRO-CONNECTION™ modem, a copy of TYPER A (supplied with your modem) should be added to your COMMBAT diskette.

The COMMBAT diskette is now complete and will run on any ATARI disk system from 24K to 48K, with or without cartridges installed.

Beginning the game

If you are using the ATARI 850 Serial Interface, you must use Serial Port 1 for COMMBAT.

Starting with your system turned off and your COMMBAT diskette into Drive 1, turn on Drive 1. Next, turn on your 850 Serial Interface. Finally, turn on your ATARI 400/800 computer. If a cartridge is installed, type DOS. If you're using the MICROCONNECTION™ direct modem, load TYPER A using Option L. from the COMMBAT diskette. Do not use the diskette supplied with your modem.

Load COMMBAT using Option L. COMMBAT is a "load and go" file and will automatically execute, beginning the prompted startup procedure that allows you to choose baud rate and choose a no-opponent playing mode (if you want to practice alone.) Be sure to select a baud rate compatible with your modem equipment and that of your opponent. COMMBAT supports all of the common baud rates from 110 to 9600.

COMMBAT automatically determines if you are using the ATARI 850 Interface or the MICROCONNECTION™. If no serial port is available, you will be informed, and you may play only a practice game. Press any key to continue.

At this point, you may go into the terminal mode to allow direct communication with your opponent or to permit logging on to one of the dial-up services in order to establish communications through the use of their CB or CHAT facility. To exit the terminal mode direct to COMMBAT, press SHIFT #.

Next you will be asked to enter a password. If you intend to resume a partially-completed game, make sure you remember your password. Neither opponent can load a saved game unless both players enter the same passwords used when the game was saved.

Press RETURN to confirm that communications have been established between you and your opponent. If COMMBAT does not proceed past this point, carefully check for cable problems, a disconnected telephone, or any essential equipment that is not turned on.

If your opponent's system is capable of supporting Load/Save Game, you have the option of resuming a partially-completed game that

has been saved on diskette or cassette. If this option is selected, the game will resume automatically as soon as both combatants have successfully loaded it.

If you elect to start a new game, you will be asked to enter the location of your base. After both opponents have placed their bases, the game will start automatically.

ATARI 24K TAPE VERSION

MICROCONNECTION™ Modem Owners: First, load and run the program included with the modem called TYPER A before loading COMMBAT.

ALL OTHER MODEM OWNERS: Power up your modem and load COMMBAT using the following Tape Loading instructions:

1. Cue the COMMBAT tape to the beginning of the tone using a standard audio recorder.
2. If on, turn off your ATARI computer and any other equipment.
3. Place the COMMBAT tape into your ATARI cassette player.
4. Turn on the 850 Interface.
5. Press and hold the START button on the keyboard and turn on the computer.
6. Press PLAY on the cassette player, then hit RETURN.
7. The tape will now load and execute automatically. NOTE: Due to memory limitations, ATARI owners playing against the minimum 16K ATARI version of COMMBAT cannot use the load/save game option, so this choice is not presented.

APPLE 2 Loading/Operating Instructions

APPLE 2 DISK VERSION

USER'S NOTE: Once you've loaded the tape or disk version of COMMBAT for your specific system, refer to Steps 8 through 13 under TRS-80 MODEL 1 and 3 16K TAPE VERSION for guidelines regarding pre-play procedure and establishing modem communications.

If your APPLE 2 has DOS 3.2, simply insert the COMMBAT diskette into Drive 1 and boot the system by turning on the computer. (The power switch is located on the left rear panel of the system.) The disk will load and run automatically.

If your APPLE 2 has DOS 3.3, you will first have to convert the COMMBAT diskette. To do so, use the MUFFIN utility which is provided on your DOS 3.3 master. Instructions on the use of MUFFIN can be found in your DOS 3.3 user's manual. Once you've converted the diskette, follow the loading instructions above for DOS 3.2.

COMMBAT Quick Reference Card (C) 1981 Adventure Int'l.

Directional Weapons:

Laser	(F L 8)
Rocket	(F R 3)

```
 8 1 2
 7 + 3
 6 5 4
```

Firing Directions -->

Target weapons:

Shell	(F S 1 22 10)
ICBM	(F I 5 15 11)

Air Recon. (F A 5 18 9)

	Range	Strength
ICBMs:	Unlim	8x8 sq.
Lasers:	4 KM	1 Unit
Rockets:	3 KM	4 Units

	Range	Strength
Drones:	Unlim	7x7 sq.
Shells:	5 KM	2 Units
Mines:	Contact	4 Units

Symbols Table:

+	Own Mine.	X	Dead Tank
#	Boundary Marker	*	Enemy Tank
B	Your Base	1 TO 8	Your Tank
D	Your Decoy	BBB	Enemy Base/Decoy

Command Table:

Commands:	Params:	Example:	Objects:
(D)ROP	D,L,M,R,S	D M 5	(A)IR RECON.
(F)IRE	A,I,L,R,S	F L 3	(B)ASE
(H)ELP	---------	H	(D)ECOY
(L)OAD	D,L,M,R,S	L M 7	(I)CBM
(M)AP	Sector #	M 6	(L)ASER
(P)ATCH	TANK #'S	P 1 2 3	(M)INE
(Q)UIT	---------	Q	(R)OCKET
(S)ELECT	B,D,TANK#	S D 2	(S)HELL
(:) MESSAGE	Messages	:Got you now	(T)ANK

Map Layouts:

```
 1 .................    S,X,Y      .........
 ! .                 . S-Sector    . 1 . 2 .   S   L
 ! .                 . X-Horizontal.........   E   A
 ! .    32 X 16 KM   . Y-Vertical  . 3 . 4 .   C   Y
 Y .      Sector     .             .........   T   O
 ! .      Display    .             . 5 . 6 .   O   U
 ! .                 .             .........   R   T
 ! .                 .             . 7 . 8 .
16.................                .........
  1------ X ------ 32
```

Resources:

Tanks:	8	Mines:	200	Bases:	1
Drones:	4	Shells:	250	ICBMs:	1
Decoys:	3	Laser:	255	Rockets:	200